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ABSTRACT

Currently every Area Education Agency, community college, and Regent University in Iowa is connected by a fiber optic system known as the Iowa Communications Network (ICN). Every semester, 7 to 13 college credit classes have been offered at the University of Northern Iowa (UNI) via the ICN since 1993. In the Spring of 1995 seven classes (six graduate, one undergraduate) were offered on the ICN by UNI; all were taught by a different instructor, each of whom had participated in a 3-day preparatory workshop. All 168 students were surveyed and 103 responded. Students reported their instructors used a variety of teaching strategies with lecture and discussion as the two most common. In spite of this emphasis on lecture and discussion, a variety of other strategies were used including case studies, demonstrations, story telling, simulations, and role playing. Student evaluation of the teaching strategies over the interactive video medium indicated a general perception of effectiveness. One concern expressed about the distance learning setting is the effect on student behaviors. Students commonly responded that the fiber optic setting made "no difference" on class attendance, asking and answering questions, and motivation to learn. Fifty-nine percent of the students agreed or strongly agreed with the statement: "There is a real advantage to being in the origination site classroom," while 23% were neutral and 17% disagreed. An overwhelming majority (87%) of the students indicated a favorable response to taking another class on the ICN. (AEF)

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In the (Not So) Distant Future:
Fiber Optic Distance Learning at the University of Northern Iowa

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Interactive Video Instruction at the University of Northern Iowa

Iowa has invested heavily in fiber optic technology to link all 99 counties. Currently every Area Education Agency, community college and Regent University is connected by a fiber optic system known as the Iowa Communications Network (ICN). Soon every high school and many libraries will join the network. By the end of 1996 two-thirds of Iowa school districts will have a fiber optic classroom. After just two years in operation the system is heavily used and demand continues to grow. As of January 8, 1996 55,763 hours of use were scheduled for the ICN this spring. Twenty-eight per cent were K-12 events, 58% were higher education, and 15% were administrative sessions (Iowa Educational Telecommunications Council, Connection, Vol 8, February 1996).

UNI has been a major player in the use of the network and plans to continue expanding the role it plays in educating students. Every semester seven to thirteen college credit classes have been offered via the ICN since 1993. In a typical semester, classes reach twenty-two communities throughout the state. Currently six Masters Programs are available with only a short residency requirement during summer. Starting Spring of 1997, the Communication Studies Department plans to offer an MA degree in Communication Education over the system.

Naturally, a major concern for faculty, administrators and students is the impact of this setting on teaching and learning. The research reported in the following pages attempts to begin to answer this from the perspective of the students taking a class

on the ICN by examining their perceptions of its effect on their academic behaviors.

Student Perceptions of a Two-Way Interactive Video Class

The use of fiber optic cable to provide high quality interactive distance learning is increasing. An August 1995 survey by Software Publishers Association noted that, "School use of distance learning services, including...fiber optic cable...will increase dramatically in the 1990s.[1] A 1995 survey of senior administrators at 407 colleges and universities concluded that the use of distance learning has increased over the past year.[2]

The Survey

In the Spring of 1995 seven classes (six graduate, one undergraduate) were offered on the ICN by the University of Northern Iowa. (See list attached) All were taught by a different instructor, each of whom had participated in a three-day workshop to prepare for teaching in this setting. All 168 students were surveyed; 103 responded.

The Results

Student demographics revealed that 76% of the respondents were female, 23% male. Students ranged in age from 21-57 and only 2% were classified as minority. Since UNI offers six graduate

degrees via the ICN only 24% of the students were taking their first class in this setting, with 19% taking their 4th or 5th.

Students reported their instructors used a variety of teaching strategies with lecture (94% of the students reported its use) and discussion (95%) as the two most common. This mirrors the results of a study of instructional methods used by undergraduate instructors in which faculty reported discussion (70%) and extensive lecturing (54%) as the two most commonly used strategies.[3] In spite of this emphasis on lecture and discussion, a variety of strategies were used including: case studies (59%), demonstrations (47%), story telling (28%), simulations (22%), and role playing (18%).

Student evaluation of the teaching strategies over the interactive video medium indicated a general perception of effectiveness. Lecture was perceived as effective or highly effective by 61% of the students, discussion by 91%, demonstration by 80%, role playing by 76%, case studies by 79%.

One concern expressed about the distance learning setting is the effect on student behaviors. Students taking an ICN class were asked to indicate how the fiber optic setting influenced things like their attendance in class, asking and answering questions, and motivation to learn. For most actions the most common response was that the setting made "no difference." (See table for results)

Since the physical presence of the teacher in the classroom can be predicted to be an advantage, this perception was

investigated by asking students to indicate agreement to the statement, "There is a real advantage to being in the origination site classroom." Fifty-nine per cent did agree or strongly agree, however 23% were neutral, and 17% disagreed or strongly disagreed.

In an attempt to obtain an overall evaluation of the experience, students were asked to indicate their feelings about taking another class on the ICN. An overwhelming majority (87%) indicated a favorable or very favorable response, 10% were neutral and 1% unfavorable. Not a single student selected very unfavorable.

IMPLICATIONS

The move to new technologies and delivery systems requires investigation into the nature of the student experience in the technologically enhanced setting. This research reporting student perceptions of a course taken in a two-way interactive video format provides insight into that experience. The generally favorable results should bolster those who are leading the movement to expand its use and perhaps alleviate some of the concern by those who are skeptical. These results provide evidence that the setting does not limit the instructor to a "talking head" mode of teaching and a that a variety of methods can be used effectively.

Students appear to adjust to the setting and for the most part, it has only a slight effect on their academic behaviors.

The one result worthy of special comment is that the most frequent response to being asked about the likelihood of developing a positive relationship with other students was an indication that it was more likely to occur in this interactive video setting. Perhaps it is safe to say that teachers who have been prepared for the interactive video classroom are able to provide a positive experience for most students.

References:

1.Iowa Computer Using Educators (1995), "Teacher and Students are Outpacing Schools in Familiarity and Usage of PCs," *Interface*, p. 22.

2.National Education Association (1995), *Advocate*, XIII (1), p. 2.

3.Dey, E. (1995), "The Activities of Undergraduate Teaching Faculty," *The NEA Higher Education Journal*. XI (1), pp. 43- 62.

Classes Offered Spring 1995
by the University of Northern Iowa
Via the Iowa Communications Network

School Law
Media Administration
Seminar in Media
Classroom Evaluation
Administration of the School Library Media Center
Teaching Students with Severe Disabilities
Music Styles II

Table 1

Students were asked to compare their behaviors in an ICN class to their behaviors in a traditional class. They were asked whether it was more likely, less likely or it made no difference if they were in the ICN setting.

Behavior	% More Likely	% Less Likely	% No Difference
Ask the teacher a question	9	42	49
Answer a teacher-asked question	12	34	53
Attend class	20	2	77
Learn class content	9	15	75
Develop a positive attitude toward the class	27	18	54
Be motivated to work hard	15	7	78
Develop a positive relationship with the teacher	14	41	45
Develop a positive relationship with other students	39	24	33